UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-280/81-02 and 50-281/81-02

Licensee: Virginia Electric and Power Company
P. O. Box 26666
Richmond, Virginia 23261

Facility Name: Surry Power Station

Docket Nos. 50-280 and 50-281

License Nos. DPR-32 and DPR-37

Inspection at Surry, Virginia

Inspector: A. L. Cunningham — Date Signed: 03/13/81

Approved by: D. M. Montgomery, Acting Section Chief, EPPS Branch — Date Signed: 3/16/81

SUMMARY

Inspection on February 2-6, 1981

Areas Inspected

This routine unannounced inspection involved 35 inspector-hours on site in areas of the radiological environmental monitoring program including: management controls; quality control of analytical measurements; inspection of selected environmental monitoring stations; review of radiological environmental monitoring procedures; review and verification of implementation of the monitoring program. The status of the nonradiological aquatic biological monitoring program was also reviewed.

Results

Of the six areas inspected, one violation was found in one area (failure to implement required analyses - 50-280/81-02-01 and 50-281/81-02-01). No apparent deviations were found in six areas.

DETAILS

1. Persons Contacted

*J. L. Wilson, Station Manager
*R. F. Saunders, Assistant Station Manager
*H. P. Sarver, Health Physics Supervisor
*B. Garber, Health Physicist
*D. Kreter, Environmentalist
*F. L. Rentz, Quality Assurance
*O. J. Costello, Staff Assistant

NRC Resident Inspectors

*D. L. Burke
*M. Davis

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on February 6, 1981 with those persons indicated in Paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (50-280/79-66-01 and 50-281/79-86-01): Failure to Follow Procedures. Inspection disclosed that two spare air particulate monitors were available, as required by Licensee Procedure HP-3.3.1, to assure continuity of air sampling at the assigned monitoring stations. There were no further questions regarding this item.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. The unresolved item identified during this inspection is discussed in paragraph 5b.

5. Management

a. Management and administrative controls defined in Section 6.0 of the Technical Specifications were reviewed by the inspector with respect to the following items: (1) organizational and management responsibility for the radiological environmental monitoring program; (2) environmental monitoring procedures; (3) quality assurance including periodic audits and analytical quality control.

b. The inspector conducted a detailed review (including discussions with cognizant licensee representatives) of recent corporate organizational changes to determine the adequacy of specific management responsibility for the radiological monitoring program. Inspection disclosed that organizational structure and specific management assignments should assure continued implementation of the program in accordance with license requirements. There were no questions regarding this item.

c. Technical Specification 6.4.A requires the licensee to provide detailed written procedures with appropriate check-off lists and instructions for the subject program. Technical Specification 6.4.D requires that all procedures shall be followed. Inspection included a comprehensive review of licensee procedure HP-3.3-1, "Environmental Sample Collection," approved on March 7, 1980. The subject procedure was later revised and included under Procedure HP-3.5.1, "Health Physics Environmental: Sample Collections and Analysis", approved November 17, 1980. The following sample collection procedures/instructions were included: (1) precautions and limitations addressing procedural compliance and collection of backup liquid samples - Section 3.0; (2) general sampling and sample documentation - Section 4.1; (3) collection of land based samples including air particulate, iodine, radiogas (TLD's), precipitation (rainfall), milk, well water, surface water, crops (corn, soybeans, peanuts), fowl, and soil - Section 4.2; (4) river based samples including James River water, shellfish, silt (river substrate), crabs, and fish - Section 4.3; (5) split sample program, viz., VEPCO and the State of Virginia, including selected air particulate, TLD, crops, milk, James River water, oysters, and clam samples - Section 4.4. All procedural requirements for the period December, 1979 through January 1981, were reviewed and discussed with licensee representatives including checklists, instrument calibration and maintenance, frequency of assigned monitoring and sample collections, records and documentation of sample collections and submission of analytical samples to licensee contractor, records and documentation of receipt of analytical data from the contractor. Inspection disclosed that, in the case of Section C.1.b of Procedure HP 3.3-1, the licensee failed to save an additional ½ gallon James River water sample collected in July, 1980 (the first semiannual sample for calendar year 1980), as required by the subject procedure as insurance against loss. As a consequence, analysis of the samples required by Technical Specification 4.9.E was not implemented following loss of the original river water samples in transit to the licensee's contractor. This item is addressed in paragraph 6.a below.

d. Technical Specification 6.1.10.i.1 provides for audit of the licensee's conformance will all provisions contained within the Technical Specifications and applicable license conditions at least once per year. The inspector reviewed the audit checklist and results of licensee Audit No. S80-15 which addressed, in part, the environmental monitoring program defined in Technical Specification 4.9.E.

The audit report, dated October 20, 1980, disclosed no deficiencies. The scope of the audit, however, was confined to station radiological safety and environmental sampling programs, but did not include audit of the licensee's contractor program for radiochemical analysis of environmental samples. In response to the inspector's inquiry regarding exclusion of the subject contractor's program from the annual quality assurance audit, a licensee representative stated that the technical specifications did not require such an audit; further, that the contractor is audited triennially by a VEPCO corporate group to determine suitability of the contractor to conduct the analyses. The inspector expressed concern regarding continued assurance of the validity and accuracy of the contractor's analytical procedures and results. A licensee representative stated that it was his belief that Eberline Instrument Corporation employed the quality assurance program defined in NRC Regulatory Guide 4.15 (Quality Assurance For Radiological Monitoring Program (Normal Operations), Effluent Stream and the Environment). The licensee representative further stated that upon receipt of the contractor's monthly reports on sample analyses, they review the contractor's summary of analytical quality control including counting efficiencies for the specific radionuclides involved, correlation of split sample data, analysis of replicate samples, and computational checks; hence annual audit of the contractor, was neither considered nor planned. The inspector informed licensee representatives that radiochemical analyses of environmental samples conducted by the contractor was, in fact, an extension of their (i.e., the licensee's) function in meeting the analytical requirements defined in Technical Specification 4.9.E, Table 4.9-1. As a consequence, they (i.e., the licensee) bear responsibility for assuring the quality and accuracy of the contractor's procedures and results through more frequent review and audit of the contractor, analytical program, at least, in conformance with Technical Specification 6.1.10.i.1. The inspector later informed licensee representatives that this item would be considered an unresolved item (50-280/81-02-01, 50-281/81-02-01) pending a more detailed review and inspection of licensee audit procedures, commitments and schedules.

6. Implementation of the Radiological Environmental Monitoring Program

a. Technical Specification 4.9.E, Table 4.9-1 defines all requirements for the licensee's radiological environmental monitoring program. The inspector reviewed and discussed the following items with licensee representatives: (1) licensee's annual report to NRC for the period ending December 31, 1979; (2) licensee contractor monthly radiochemical analytical reports and appended QA/QC summaries for environmental samples submitted by the licensee for the period December, 1979 through December 1980; (3) environmental sampling field (sample collection) data records for the period December, 1979 through January, 1981; (4) trend analysis plots current through December, 1980; (5) records/invoices of licensee shipments of environmental samples to the contractor for radiochemical analyses during the period December, 1979, through January 1981; (6) records verifying receipt of

analytical results by the licensee from the contractor. Inspection disclosed the following: (1) the monthly analysis of milk samples for January, 1980 was not met; (2) the second quarterly, first semiannual, and annual analytical requirements were not met for oysters and clams, James River water, and crabs, respectively, during July, 1980. The inspector informed licensee representatives that the above findings constituted a violation (50-280/81-02-02, 50-281/81-02-02). In reference to the subject findings, Technical Specification 4.9.E, Table 4.9-1 requires radiochemical analysis of the subject environmental samples as collected. A licensee representative stated that the subject samples were lost in transit to the contractor. The inspector remarked that backup samples, where possible, should be retained by the licensee until such time that the contractor has acknowledged receipt of same to assure required sample analyses and compilation of cumulative records of radioactive releases to the environment. Section 3.2 of licensee procedure HP-3.5.1 (Health Physics Environmental: Sample Collection and Analysis, approved November 17, 1980) now requires that an aliquot of all liquids sent to the consultant for analysis, shall be saved as a backup. Such a requirement should include all sample types; hence, following notification of receipt of samples by the contractor, backup samples, excluding those selected for sample splitting or QA/QC program requirements, could be discarded by the licensee.

b. The inspector examined all licensee air particulate and charcoal filter monitoring stations and the associated TLD stations. Sample flow meter, vacuum guage and timer of each air particulate monitor was inspected to verify operation and flow settings where applicable. Inspection also included review of periodic calibration, maintenance and adjustment of sample flow meters, and the availability of backups, air particulate monitors and spare parts. Inspection disclosed that all particulate monitoring stations and the maintenance thereof were consistent with requirements of Technical Specification 4.9.E and those requirements imposed by licensee operations, calibration and maintenance procedures. There were no questions regarding this item.

c. The licensee's continued plotting of data for trend analysis following receipt of the contractor's monthly sample analytical results was reviewed and found to be satisfactory. There were no questions regarding this item.

7. Nonradiological Environmental Monitoring Program

Inspection of the nonradiological environmental monitoring program was confined to the aquatic biological monitoring parameters defined in Section B and E Technical Specification 4.13, addressing fish sampling and low level intake screen fish impingement respectively. Inspection included a detailed review of the annual environmental report for the period ending December 31, 1979, and all field monitoring records verifying required monitoring during the period January 1980 through January 1981. Inspection disclosed that the subject monitoring program was consistent with all requirements detailed in Sections B and C of the subject specification. There were no questions regarding this item.